arrangement for detecting a shaft break in a rotor of a first turbine (10), ~~particularly a medium pressure turbine,~~ whereby a second turbine ~~(11), particularly a low pressure turbine,~~ (11) is positioned downstream of the first turbine, characterized in that [[an]] a mechanical operator element (16) is positioned between the rotor of the first turbine (10) and a stator of the second turbine (11) radially inwardly relative to a gas flow channel, and in that a sensor element (21) is guided in the stator of the second turbine (11), wherein the mechanical operator element is linearly slidably arranged between the rotor of the first turbine and the sensor element, and is located adjacent to the rotor such that the rotor will strike the operator element and linearly slide the operator element with a linear sliding motion toward the sensor element in the event of the shaft break, and wherein the sensor element is arranged and adapted to convert the linear sliding motion of the operator element ~~in order to convert a shaft break detected by the radially inwardly positioned operator element (16)~~ into an electrical signal and to transmit [[this]] the electrical signal to a switching element ~~which is~~ positioned radially outwardly relative to the gas flow channel on a housing of the gas turbine.

26. (Previously presented) The gas turbine of claim 25, characterized in that the operator element (16) is positioned between a last rotor blade ring of the first

turbine (10), as seen in the flow direction, and a first guide vane ring of the second turbine (11), as seen in the flow direction.

27. (Previously presented) The gas turbine of claim 26, characterized in that the operator element (16) is positioned radially inwardly and neighboring to a rotor disk (12) of the last rotor blade ring, as seen in the flow direction, of the first turbine (10).

28. (Previously presented) The gas turbine of claim 25, characterized in that the operator element (16) is guided in a radially inwardly located sealing structure (13) of the stator of the second turbine (11) in an axial direction or in the flow direction, whereby the operator element (16) is fixed in the axial direction by a shearable pin (18).

29. (Previously presented) The gas turbine of claim 25, characterized in that the sensor element (21) is guided in a radial direction in the stator of the second turbine (11), and is withdrawable out of the stator of the second turbine (11) in the radial direction.

30. (Previously presented) The gas turbine of claim 29, characterized in that the sensor element (21) is guided in a first guide vane ring of the second turbine (11) as seen in the flow direction.

31. (Previously presented) The gas turbine of claim 28, characterized in that the sensor element (21) cooperates, at a radially inwardly positioned end, with the operator element (16) in such a way that, in response to a shaft break, the operator element (16) is moved onto the sensor element (21) and hits the same while the pin (18) is sheared off, whereby the sensor element (21) generates thereof an electrical signal that represents a shaft break.

32. (Previously presented) The gas turbine of claim 25, characterized in that the sensor element (21) is constructed as an impact sensor the structure of which is changed by an impact of the operator element (16) onto the same.

33. (New) The gas turbine of claim 25, wherein the gas turbine is an aircraft engine, the first turbine is a medium pressure turbine, and the second turbine is a low pressure turbine.

34. (New) The arrangement of claim 17, wherein the gas turbine machine is an aircraft engine, the first turbine is a medium pressure turbine, and the second turbine is a low pressure turbine.

35. (New) A gas turbine machine comprising:

a first turbine including a rotor shaft and a first turbine rotor connected to said rotor shaft;

a second turbine including a second turbine stator arranged downstream from said first turbine rotor with respect to a gas flow direction through a gas flow channel of said gas turbine machine;

a mechanical operator element that is linearly slidably mounted to said second turbine stator, and that has a first end facing toward and exposed to but spaced apart from said first turbine rotor with a spacing gap therebetween, and that has a second end opposite said first end and oriented downstream with respect to the gas flow direction; and

an electromechanical sensor element mounted to said second turbine stator adjacent to said second end of said mechanical operator element;

wherein said mechanical operator element is arranged such that, if said rotor shaft breaks, then said first turbine rotor will strike said first end of said mechanical operator element and slide said mechanical operator element against said sensor element, and responsive thereto said sensor element is adapted to produce an electrical signal.

36. (New) The gas turbine machine according to claim 35, wherein said mechanical operator element is located

radially inwardly relative to said gas flow channel with respect to a central axis of said gas turbine machine.

37. (New) The gas turbine machine according to claim 35, wherein said mechanical operator element is linearly slidable in an axial direction parallel to an axis of said gas turbine machine, and said sensor element is linearly radially guided in said second turbine stator to be linearly radially removable out from said gas turbine machine in a direction radial to said axial direction.